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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,516	09/30/2003	Sadato Imai	IMAI12	1654
1444	7590	08/02/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			WON, BUMSUK	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/673,516	IMAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Bumsuk Won	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Planar light emitting diode with shielding and back light unit.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

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disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The words in the abstract such as "comprise" (line 1), "said" (lines 2 and 4), and "means" (line 4) are part of legal phraseology. Appropriate correction is required.

4. The disclosure is objected to because of the following informalities: the word "substitute" in page 6, line 22 is "substrate". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parikka (US 6,392,342) in view of Apgar (US 3,694,902).

Regarding claim 1, Parikka teaches a light emitting diode, comprising; an element substrate (403); a light emitting element (301) mounted on said element substrate (403); a translucent sealing body (302) for sealing said light emitting element (301); an optical wave-guide (404) having a light receiving surface (note column 2, lines

15-16) for receiving light emitted from the light emitting parts (302) of said sealing body (302).

Parikka does not teach a light shielding means to be formed on said sealing body light emitting parts for directing light from said sealing body in two dimensional directions which are formed from a combination of either two axes of three dimensional axes X, Y and Z.

Apgar teaches a light shielding means (note figure 5) to be formed on said sealing body light emitting parts (note figure 5) for directing light from said sealing body in two dimensional directions which are formed from a combination of either two axes of three dimensional axes X, Y and Z (note abstract, lines 12-20, and figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use shielding means to directing light in two-dimensional directions, for the purpose of generating planar lighting direction.

Regarding claim 3, Parikka also teaches front light emitting part (note curved surface of item 302 in figure 3a) of sealing body (note item 302 in figure 3a) is facing the light receiving surface of optical wave-guide (note column 2, lines 15-16).

Parikka does not teach a light shielding means for directing the light from the light emitting parts of said sealing body toward the light receiving surface of said optical wave-guide, wherein said light emitting parts are arranged on three dimensional axes X, Y and Z which are perpendicular with respect to each other, and said light shielding means shields the light emitting parts other than light emitting parts on two axes

corresponding to the light receiving surface of said optical wave-guide among said light emitting parts on the three dimensional axes to form the light emitting parts on the two axes for directing the light emitted from the light emitting parts on the two axes to said light receiving surface.

Apgar teaches a light shielding means (note abstract, line 19, "facet and metal coating") for directing the light from the light emitting parts (note item 20 in figure 5) of said sealing body (note item 20 in figure 5), wherein said light emitting parts (note item 20 in figure 5) are arranged on three dimensional axes X, Y and Z which are perpendicular with respect to each other, and said light shielding means (note abstract, line 19, "facet and metal coating") shields the light emitting parts (note item 20 in figure 5) other than light emitting parts (note item 20 in figure 5) on two axes corresponding to the light receiving surface of said optical wave-guide (note Parikka, item 102 in figure 1) among said light emitting parts (note item 20 in figure 5) on the three dimensional axes to form the light emitting parts (note item 20 in figure 5) on the two axes for directing the light emitted from the light emitting parts (note item 20 in figure 5) on the two axes to said light receiving surface (note Parikka, column 2, lines 15-16, "the edge of an essentially planar light guide").

The reason for combining is same as claim 1 as above.

7. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parikka (US 6,392,342) in view of Apgar (US 3,694,902), and further in view of Schoberl (US 4,143,394).

Regarding claim 2, Parikka teaches all of the claimed limitations except for a light shielding means includes light shielding members for selectively shielding one portion of the light emitting parts formed on the sealing body, and said light emitting parts are arranged on three dimensional axes X, Y and Z which are perpendicular with respect to each other, if the light emitting part positioned on either one of the three dimensional axes X, Y and Z is a front light emitting part, said light shielding members shield top and bottom light emitting parts except for the front light emitting part and side light emitting parts on opposite and adjacent sides of the front light emitting part.

Apgar teaches light shielding means (note abstract, line 19, "facet and metal coating") includes light shielding members (note abstract, line 19, "facet and metal coating") for selectively shielding one portion of the light emitting parts (note item 20 in figure 5) formed on the sealing body (note item 20 in figure 5), and said light emitting parts (note item 20 in figure 5) are arranged on three dimensional X, Y and Z, if the light emitting part (note item 20 in figure 5) positioned on either one of the three dimensional axes X, Y and Z is a front light emitting part, said light shielding members shield top and bottom light emitting parts except for the front light emitting part and side light emitting parts on opposite and adjacent sides of the front light emitting part (note item 26 in figure 5), (note abstract, lines 12-20, and figure 5).

Apgar does not teach said light emitting parts are arranged on three-dimensional axes X, Y and Z which are perpendicular with respect to each other.

Shoberl teaches said light emitting parts are arranged on three-dimensional axes X, Y and Z which are perpendicular with respect to each other (note item 1 in figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have said light emitting parts are arranged on three dimensional axes X, Y and Z which are perpendicular with respect to each other, and if the light emitting part positioned on either one of the three dimensional axes X, Y and Z is a front light emitting part, said light shielding members shield top and bottom light emitting parts except for the front light emitting part and side light emitting parts on opposite and adjacent sides of the front light emitting part, for the purpose of generating planar lighting direction.

Regarding claim 4, Parikka teaches if said light emitting part positioned on the X axis is a front light emitting part (note curved surface of item 302 in figure 3a), the light emitting parts positioned on the Y axis are side light emitting parts (note D shaped surface on item 302 in figure 3a) and the light emitting parts positioned on the Z axis are top and bottom light emitting parts (note two other surfaces that are not curved or D shape), said front light emitting part (note curved surface of item 302 in figure 3a) is disposed to face to the light receiving surface of the optical wave-guide (note column 2, lines 15-16, "the edge of an essentially planar light guide"),

Parikka does not teach light shielding means shields the top and bottom light emitting parts except for the front and side light emitting parts.



Apgar teaches light shielding means (note abstract, line 19, "facet and metal coating") can be shielded for the purpose of improving light reflection and visual impact.

The reason for combining is same as claim 2 as above.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parikka (US 6,392,342) in view of Apgar (US 3,694,902).

Parikka disclose all the claimed limitations except for the side light emitting parts are formed into surfaces oblique to the light-receiving surface.

Apgar discloses side light emitting parts are formed into surfaces oblique to the light-receiving surface (note figure 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form side light emitting parts into surfaces oblique to the light receiving surface, for the purpose of achieving larger lighting angle and in proper direction.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parikka (US 6,392,342) in view of Apgar (US 3,694,902) in further view of Dietiker (US 6,677,707).

Parikka in view of Apgar disclose all the claimed limitations except for the front light emitting part is formed into a semi-circular surface facing the light-receiving surface of optical wave-guide.

Dietiker discloses front emitting part is formed into a semi-circular surface facing the light-receiving surface of optical wave-guide (note figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form front light emitting part into a semi-circular surface facing the light-receiving surface of optical wave-guide, for the purpose of achieving larger lighting angle in proper direction.

***Contact information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bumsuk Won  
Patent Examiner

  
**JOSEPH WILLIAMS**  
**PRIMARY EXAMINER**